



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,660	12/22/2000	Stephen M. Smith	LAM2P216	9842

25920 7590 11/06/2002
MARTINE & PENILLA, LLP
710 LAKEWAY DRIVE
SUITE 170
SUNNYVALE, CA 94085

[REDACTED] EXAMINER

WINTER, GENTLE E

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

1746

9

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/747,660

Applicant(s)

SMITH ET AL.

Examiner

Gentle E. Winter

Art Unit

1746

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***Period for Reply****A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM****THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 September 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 20-30 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) 20-30 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 17 April 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 & 6. 6) Other:

ation/Control Number: 09/747,660
nit: 1746

DETAILED ACTION

Claim Objections

Claims 4-7, 11-14, and 18-19 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims are drawn to a future intended use of the apparatus, and as such fail to further limit the apparatus. The claims are rejected under their appropriate base claim.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The interconnectivity and interconnecting elements, which are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Notwithstanding the above-indicated deficiencies, the claims have been examined with respect to the recited structural elements. Examples of such omitted structural elements include:

- a. "automatically slide between an up position...and a down position" is the recited "shaft" affixed to the "wafer backside plate"? Does the shaft govern the motion? If so, is

Art Unit: 1746

there a controller that precipitates the "automatic slide"? Is the "automatic slide" based on centrifugal force? Applied mechanical force? If the latter, how and where is the mechanical force applied?

b. In claim 8 and 15, is the "shaft" "configured to receive and engage the central aperture" or is the "shaft" received by the central aperture? Similarly the questions of claim 1 also exist with respect to claim 8.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 4,654,522 to Gornick et al. Claim 1 is drawn to an apparatus. The apparatus includes a plate and a shaft. The language "configured to include" goes to future potential element(s) and future intended use(s) and as such are give little patentable weight. The claim is drawn to an apparatus, and as such structural limitations are where the most patentable weight will be accorded. Figure 2 of Gornick et al. disclose a plate and a shaft. See specifically element 70 drawn to a wafer and element 60 drawn to a shaft.

5. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,974,681 to Gonzalez-Martin et al. Figure 2a discloses each and every element a plate is element 202 and the shaft is element 224. Also disclosed is key (247) formed on shaft

Art Unit: 1746

(246) mates with keyway (248) formed in platform receptacle (232) (best seen in FIGS. 5a and 5b) to thereby fix shaft (246) and platform (202) for relative rotation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 4,788,994 to Shinbara.

7. Claims 1-7 of the instant invention are drawn to an apparatus including a plate and a shaft. The recitation of “configured to” is not construed to substantively limit the claim, but rather is construed as an optional component. Shinbara discloses a “rotary plate (2)” and a “shaft (5).” The shaft has a notch into which pin (16) is inserted. Claims 4-7 are drawn to a future intended use.

8. Claims 8-14 of the instant invention are drawn to apparatus including a chuck with a plurality of grippers, a plate, and a shaft. The dependant claims disclose that the shaft has a slot and disclose a pin. Shinbara discloses a “rotary plate (2)” and in paragraph 8 discloses a “shaft (5).” The shaft has a notch into which pin (16) is inserted. Shinbara also discloses “movable chuck member” and “movable chuck pieces (1a)”. Wherein the “chuck pieces are the wafer grippers or holders. Claims 11-14 are drawn to a future intended use.

9. Claims 15-19 of the instant invention are drawn to apparatus including a chuck with a plurality of grippers, a plate, and a shaft wherein the shaft is connected to a central portion of the chuck. Shinbara discloses an apparatus for preparing a wafer including a chuck having a plurality of grippers or holders, a plate having a top surface, and a bottom surface wherein the bottom surface includes a cylindrical edge lip that defines a central aperture; a shaft connected to a central portion of the chuck wherein the shaft is received by and engages the central of the plate. The defendant claims disclose that the shaft has a slot and disclose a pin. Shinbara discloses a "rotary plate (2)" and in paragraph 8 discloses a "shaft (5)." The shaft has a notch into which pin (16) is inserted. Also note that there is a pin on the upper side of the shaft. Shinbara also discloses "movable chuck member" and "movable chuck pieces (1a)": Wherein the "chuck pieces" are the wafer grippers or holders. Claims 15-19 are drawn to a future intended use.

10. Claim 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 6,292,972 to Ishihara et al. The claims of the instant invention are drawn to an apparatus including a chuck with a plurality of holders or grippers a plate having a disk-like top surface wherein the plate includes cylindrical edge lip at its center, and the edge lip has an inner surface that defines a central aperture; a shaft, wherein the shaft is connected to a central portion of the chuck. Ishihara et al. disclose a surface for holding a substrate to be processed substantially horizontally; a member rotatable around a vertical axis; an output shaft having the member connected to a lower portion thereof, for transmitting a rotational force around a vertical

Art Unit: 1746

axis; a cylinder mechanism that indirectly supports a vertical support for moving the vertical support along said axis of the vertical support together with the horizontal arm; a motor having a rotation drive shaft extending towards the output shaft in the lower portion; and a driven engage member attached to an upper portion of the output shaft and engaged with the drive engage member, for transmitting the rotational driving force of the motor by way of the drive engage member, said driven engage member slidably moving up and down relative to the drive engage member.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
12. Anderson et al. (5,851,041) appears to teach a rotationally operated wafer locking system, and other art of record teach pendulum-type centrifugal gravity based gripping systems.
13. The prior art is replete with shaft driven wafer holders that include grippers. The prior art of record appears to be largely silent with respect to systems that hold wafers, in a vertical motion-actuated, spring-biased system as illustrated in the figures. Thus, claims drawn to the illustrated invention, *with the limitations* depicted in the figures, would apparently not be identically disclosed by the prior art of record.
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gentle E. Winter whose telephone number is (703) 305-3403. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

Art Unit: 1746

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (703) 308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gentle E. Winter
Examiner
Art Unit 1746

October 31, 2002



RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700